Noise Engineering
Mimetic Digitalis

XY step sequencer optimized for live use

Overview

Type	XY CV sequencer
Size	10HP Eurorack
Depth	.8 Inches
Power	2x5 Eurorack
+12 mA	58 mA
-12 mA	22 mA

Mimetic Digitalis is a 10HP step sequencer optimized for live use. MD includes four individually editable CV outputs and a trigger out. Each step can be manually programmed or use MD to live record CV sequences using the encoder. The zero button mutes the CV at a step and shred randomizes the voltage. Save and load up to 16 patterns. Edit a pattern and use undo to return to the unedited version.

Etymology

Mimetic -- from Latin *mimus* -- "mime" with suffix -ic "pertaining to"

"pertaining to mimes”

Digitalis -- from Latin “belonging to a finger”; also a plant that will kill you.

“Finger mime of death”

Input & output voltages

MD will trigger on the rising edge of a signal above about 2.2v and responds to CVs from 0-5v. It outputs triggers at about 6v and CV signals from 0-5v.

Patch Tutorial

First patch

Patch a trigger source to the N input. Patch any number of CV outputs to CV inputs of an oscillator. If it is a triggered oscillator, patch the T out to the trigger input of the oscillator. Switch MD to Run and use the Channel Selector buttons to select the output(s) you are using and Edit them with the encoder.

Advanced patch

Patch at least one trigger source into the trigger inputs. Patch outputs to CV inputs on an oscillator. Add LFOs to the CV inputs. Edit channels and have fun.

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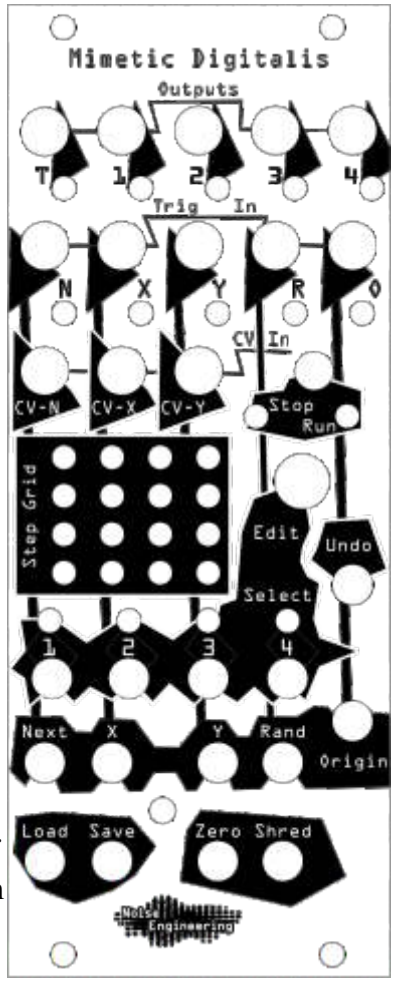
Step Display: the 4x4 grid shows the step position.



Outputs:
T: Outputs a trigger each time MD advances a step.
1-4: Four selectable, individually editable CV outputs.

Trigger inputs: MD has a variety of trigger inputs to allow control over the Cartesian coordinates of the steps. Use as many inputs as you like or simply use the manual trigger buttons below.

N: Advances MD to the next step in the full 16-step progression.
X: Advances MD to the next step in the current row, but will only move horizontally.
Y: Advances MD to the next step in the current column, but will only move vertically.
R: Advances MD to a random step
O: Advances MD to the origin (step 1)

CV In: Three inputs allow CV control over step position. CV N will vary across the entire 16-step range. CV X will only vary within a given row, while CV Y will control across a column.

Stop/Run: In Stop mode, MD will pause on a step so that each step can be tuned to the desired tone or value. Use the encoder (Edit) to set the value. Use the Step Selectors (see below) to advance steps to continue programming. MD will continue to track the clock input; when Run mode is resumed, it will continue in the appropriate place.

In Run mode, MD advances a step each time it receives a trigger. MD live records edits made to values while in Run mode.

Edit: an encoder to set CV values for the selected channel(s). The default is fine. Push and turn for coarse values. The encoder is detented so that each step is a semitone. For live editing, simple select the channel(s) you want to edit, and push and turn. All changes are recorded on the fly.

Channel Selectors 1-4: toggle buttons to select or deselect the channel to be edited. Double tapping a button will deselect all other channels (channel solo). If no channel is selected, turning the Edit encoder will not affect any outputs.

Undo: Reverts all changes made with the encoder to the last pattern that was loaded (this is the same as loading the most recently loaded pattern).

Step Selectors Next, X, Y, Rand, Origin: Manual buttons to advance MD in specific directions. Buttons work in both Run and Stop mode. If no trigger input is used, use buttons to advance steps manually.

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Load/ Save: MD can store up to 16 sets of CVs (all 4 outputs are stored together). The 16 save slots correspond to the steps on the Step Display. To load or save, hold the button down and use the encoder to dial to the slot you want to load from or save to. Tap the encoder to select which slot and save. After power cycle, MD will load the last saved state.

Zero: zeros the value for the current step. Hold down to zero multiple steps.

Shred: Press to assign a random value to a step. Hold down to shred multiple steps.

We've also added a few quick, stealthy combo moves for things we think you'll use a lot. Things *we* use a lot:

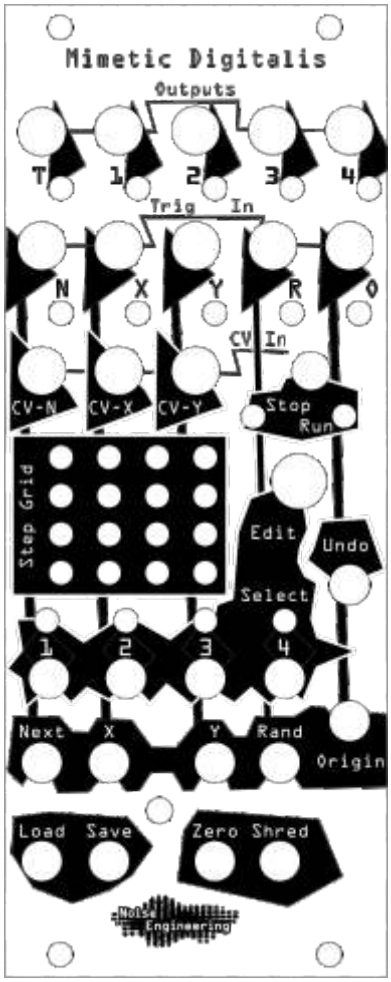
Combo Moves:

Load + Shred: instant shred of all 16 steps
Load + Zero: instant zero of all 16 steps
Zero + Shred: Pitch Shred. shred current step but restrict the voltages to one octave.
Load + Zero + Shred: Pitch shred entire pattern.

In addition, the first 8 patterns can be quick saved/loaded through combo moves. These are mapped to the buttons on MD:

Save/Load + 1: fast save/load pattern 1
Save/Load + 2: fast save/load pattern 2
Save/Load + 3: fast save/load pattern 3
Save/Load + 4: fast save/load pattern 4
Save/Load + Next: save/load pattern 5
Save/Load + X: fast save/load pattern 6
Save/Load + Y: fast save/load pattern 7
Save/Load + Rand: fast save/load pattern 8

Sliding sequence: If you want to line a certain sequence up to start at a different point, press and hold the **Origin** button and turn the encoder to move the steps around



Design Notes

Mimetic Digitalis started life as a completely different module, as so many ideas do. Although MD was always intended to be a small CV sequencer, the look, feel, and functionality could not have changed more. We like to think that it got better with each round. The first version included four CV outputs, but had minimal control over how you could engage with them, and the controls we did try were less compelling. Within a few revisions and with some input from friends, we came up with the basic idea for the current version, but all the jacks were on the bottom. We were close to going into production, but the more we played with it in our own cases, the more we were convinced that we wanted the jacks on the top so we could pull the cables up and out of the way as we route them; that way we're not working over cables while we program the MD. Cue another hardware revision! Once we had that, we knew we finally had the product we wanted.

Calibration

Mimetic Digitalis comes precalibrated. If, over time, it drifts, and needs a touch-up, it can be calibrated at home using a voltmeter (preferably 4+ digit). Turn MD on, select all four parts to edit, and push and turn the encoder until the output value is at maximum for all parts. Connect each output to the voltmeter and adjust the output using its trimmer pot on the back of the unit until the output is 5.3333v.

Special Thanks

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